LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A heterodyne receiver for use in optical switch fabrics comprising:

a tunable oscillator circuit for outputting a predetermined local oscillation frequency signal to a frequency mixer;

said frequency mixer for mixing an input data signal and said predetermined local oscillation frequency signal and outputting substantially similar mixed signals on at least two separate paths;

a current comparing means for comparing said mixed signals and generating a voltage value indicative of a difference in current within said at least two separate paths;

a gain clipped amplifier for amplifying said voltage value such that a first signal is generated; and

a decision circuit for receiving said first signal and producing a resultant logic signal.

2. (previously presented) The heterodyne receiver of claim 1, further comprising a low-pass filter for filtering said first signal.

3. (currently amended) The heterodyne receiver of claim [[1]]2, wherein said low-pass filter comprises an SMA connector.

4. (original) The heterodyne receiver of claim 1, wherein said tunable oscillator circuit comprises a fast switchable laser.

5. (original) The heterodyne receiver of claim 1, wherein said frequency mixer comprises a 3dB coupler.

6. (original) The heterodyne receiver of claim 1, wherein said current comparing means comprises two photodiodes and a differential amplifier.

7. (previously presented) The heterodyne receiver of claim 1, wherein said gain clipped amplifier is operated in saturation.

8. (previously presented) The heterodyne receiver of claim 1, wherein said decision circuit produces a logic high output if said first signal is higher than a predetermined threshold and produces a logic low output if said first signal is lower than a predetermined threshold.

9. (original) The heterodyne receiver of claim 1, further comprising at least one respective delay line and at least one respective attenuator in each of said at least two separate paths for making the signal propagation time and loss in said at least two separate paths substantially equal.

10. (original) The heterodyne receiver of claim 1, wherein said decision circuit comprises a limiting amplifier.

11. (previously presented) An optical switch fabric, comprising:

a plurality of optical transmitters;

a multiplexer for combining the optical channels of said optical transmitters;

a power splitter for splitting said combined optical channels; and

at least one receiver for receiving at least one of said split, combined optical channels, each of said at least one receivers comprising:

a tunable oscillator circuit for outputting a predetermined local oscillation frequency signal to a frequency mixer;

said frequency mixer for mixing said received split, combined optical channels and said predetermined local oscillation frequency signal and outputting substantially similar mixed signals on at least two separate paths;

a current comparing means for receiving said mixed signals via said at least two separate paths and for generating a voltage value indicative of a difference in current within said at least two separate paths;

a gain clipped amplifier for amplifying said voltage value such that a first signal is generated; and

a decision circuit for receiving said first signal and producing a resultant logic signal.

12. (original) The optical switch fabric of claim 11, wherein the signals of said plurality of transmitters are delayed replicas of each other, except that two of them are in phase.

13. (original) The optical switch fabric of claim 11, further comprising an amplifier for amplifying said combined optical channels

14. (original) The optical switch fabric of claim 11, further comprising a polarizer for polarizing said combined optical channels such that all of the optical channels propagate with substantially the same polarizations.

15. (original) The optical switch fabric of claim 11, further comprising a central clock distribution unit and delay lines.

16. (previously presented) A method of channel selection for use in optical switch fabrics, comprising:

mixing an input data signal and a local oscillation frequency signal from a tunable oscillator circuit to generate substantially similar mixed signals on at least two separate paths;

comparing said mixed signals using a current comparing means and generating a voltage value indicative of a difference in current within said at least two separate paths;

amplifying said voltage value using a gain clipped amplifier such that a first signal is generated; and

determining from said first signal a resultant logic signal.

17. (canceled)

18. (previously presented) A heterodyne receiver for use in optical switch fabrics comprising:

means for mixing an input data signal and a local oscillation frequency signal from a tunable oscillator circuit to generate substantially similar mixed signals on at least two separate paths;

means for comparing said mixed signals and generating a voltage value indicative of a difference in current within said at least two separate paths;

means for amplifying said voltage value with gain clipping such that a first signal is generated; and

means for determining from said first signal a resultant logic signal.

19. (currently amended) The heterodyne receiver of claim 1, wherein the substantially similar mixed signals each has a frequency of at least [[a]]one GHz.

20. (currently amended) The method of claim 16, wherein the substantially similar mixed signals each has a frequency of at least [[a]]one GHz.

21. (currently amended) The heterodyne receiver of claim 18, wherein the substantially similar mixed signals each has a frequency of at least [[a]]one GHz.